



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,832	12/08/2003	Chong Ki Kwon	5882P067	7570
8791	7590	07/25/2005	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			NGUYEN, KHANH V	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

## Office Action Summary

Application No.

10/730,832

Applicant(s)

KWON ET AL.

Examiner

Khanh V. Nguyen

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, see REMARKS, filed May 16, 2005, with respect to the rejection(s) of claim(s) 1, 2 under **35 USC § 102** have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new ARTs as follow.

### ***Claim Objections***

Claim 8 is objected to because of the following informalities: "A PMOS" should correctly be -- a PMOS -- . Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Betti et al. (5,418,494).

Betti et al. (Fig. 4) disclose a variable gain amplifier comprising: transistors (Q1, Q2), resistor (RE), and current sources (I1, I2) together can be configured as a voltage-current converter for converting voltages of a wide input range into currents; transistors (Q3-Q6) can be configured as a current shared circuit for receiving the currents from the voltage-current converter and controlling output currents values depending on first and second control voltages (VCONT) to the respective bases of transistors (Q3-Q6); and transistors (Q13-Q14) and resistors (RL1, RL2) can be configured as a current-voltage converter for converting the output currents from the current shared circuit into differential voltages (Vout) depending on voltage (VREF2) which can be read as bias voltage in order to obtain a variable gain.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Siniscalchi (6,522,200).

Siniscalchi (Fig. 4) discloses an amplifier circuit comprising: transistors (M11, M12), resistor (R), and current sources (404, 406) together can be configured as a voltage-current converter for converting voltages of a wide input range into currents; transistors (M3-M6) can be configured as a current shared circuit for receiving the currents from the voltage-current converter and controlling output currents values

Art Unit: 2817

depending on first and second control voltages ( $V_c \pm$ ) to the respective gates of transistors (M3-M6); and transistors (M7-M10) and current source (not label) together can be configured as a current-voltage converter for converting the output currents from the current shared circuit into differential voltages (Out+, Out-) depending on bias voltage ( $V_{b1}/V_{b2}$ ) in order to obtain a variable gain.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Betti et al.

Betti et al. disclose the claimed invention except the voltage-to-current converter comprises a first resistor and a second resistor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace transistors (Q1, Q2), resistor (RE), and current sources (I1, I2) of Betti et al. with corresponding resistors since the circuits perform the same function of converting voltage into current. As such, replacing one particular structure for another would have been obvious matter of design engineering.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siniscalchi.

Siniscalchi discloses the claimed invention except the claimed first and second resistors. Siniscalchi discloses transistors (M9, M10) can be read as first and second

Art Unit: 2817

NMOS and NMOS transistors (M7, M8) can be read as first and second current sources or third and fourth NMOS transistors as claimed in claim 6, having the connection thereof. And current sources (not label) which is well known in the art and can be replaced with a respective resistors which can be read as first and second resistors/loads.

### ***Allowable Subject Matter***

Claims 3, 4, 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 3 calls for, among others, a schematic of a voltage-current converter.

Claim 4 calls for, among others, a schematic of a current shared circuit.

Claim 8 calls for, among others, each load comprises a PMOS, a NMOS, and a capacitor and current source.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional reference (Marsh et al. (5,896,063)) shows further analogous prior art circuitry.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is (571) 272-1767. The examiner can normally be reached from 8:00 AM - 3:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone numbers

Art Unit: 2817

for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Khanh Van Nguyen', with a long horizontal flourish extending to the right.

**KHANH VAN NGUYEN**  
**PRIMARY EXAMINER**  
Art Unit: 2817